

Claims

1. A fuel cell comprising:
a catalyst coated proton exchange membrane disposed
between an anode substrate and a cathode substrate, each of said
substrates being provided with an edge seal formed of a sealant
material extruded into the substrate by a hot lamination process, at
least one of said substrates having a foam gasket adhered thereto by
said sealant material film during said hot lamination process.
2. A fuel according to claim 1 wherein both of said
substrates have a foam gasket adhered thereto by said sealant
material during said hot lamination process.
3. A fuel cell according to claim 1 wherein:
said sealant material comprises a thermoplastic polymer.
4. A fuel cell according to claim 1 wherein:
said sealant material comprises a thermoset polymer.
5. A fuel cell according to claim 1 wherein:
said sealant material comprises an elastomeric polymer.
6. A fuel cell according to claim 1 wherein only one of
said substrates has a foam gasket adhered thereto, and wherein:
the other of said substrates has a reactant gas flow field
plat adhered thereto by said sealant mat rial which is extruded into
said substrate by said hot lamination process, and a reactant gas
flow field plate related to said one substrate is adhered to said first

reactant gas flow field plate by said sealant material during said hot lamination process, to form an integral fuel cell with a gasket.

7. A fuel cell stack comprising a plurality of fuel cells according to claim 6 compressed together, whereby the foam gasket of one fuel cell provides a gas seal with the second reactant flow field plate of a fuel cell adjacent thereto in said stack.

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